

M-Commerce: Risks and Security Issues

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Abstract: Mobile commerce is more popular in present time just only because of their mobility. M-commerce is the electronic commerce using mobile device. Here discuss the use of security method for prevention of spy type attacks. M-commerce is spreading at a remarkable speed along with m-commerce popularity the issues concerning the usability of m-commerce is raising which prevent the users from completing basic and common task as general , many users usually do not successfully browse an m-commerce portal, which result in customer dissatisfaction and frustration .additionally ,even experienced user face immune problem. , we propose a lightweight protection conspire that can successfully distinguish these assaults. And here use encryption and decryption algorithms for security purpose.

I. INTRODUCTION

The use of wireless technology for a range of business activities, such as mobile commerce, is a small but rapidly growing part of the economy Most of the available literature is written for technology reviews or by commercial provider seeking to attract new customers. Mobile commerce (m-commerce) ability on client/server architecture that requires a new breed of fraud prevention solutions that secure the endpoint application Mobile commerce, or M-commerce, is a concept that involves different applications, new technologies and services which are accessible from Internet enabled Mobile devices. The concept of M-commerce has emerged from the traditional E-commerce, any business transaction whose price or essential terms were negotiated over an online system such as an Internet, Extranet, Electronic Data Interchange network, or electronic mail system. M-commerce is one kind of business operation in which the buying and selling of goods and services through wireless handheld devices such as cell phones and personal digital assistants (PDAs). Through the use of M-commerce technology, business can be conducted electronically from anywhere at any time.

II. M-COMMERCE USABILITY

M-commerce usability is one of the biggest challenging issues in adopting m-commerce. In contrast to e-commerce, research show new challenges in usability design in mobile commerce that are not present in e-commerce. According to “sears and arora” the most important user related barrier in mobile commerce was the limited data entry and the data retrieval capability as compare to regular PC. According to “venkatesh” the main challenges on using mobile commerce included, time pressure, location, convenience, device limitation, relevancy, structure standards, and industry –specific design rule.

III. M-COMMERCE FEATURES

1) **Ubiquity-** the mobile technology allow the user to access information virtually from anywhere, it assumes that the user is present within the cellular network area.

- 2) **Personalization-** in mobile commerce , the information is particularly customized to meet the needs of mobile users, since the memory capacity of the mobile hardware and software is very limited
- 3) **Flexibility-** mobile commerce offers flexibility to its users .the mobile users enjoy the flexibility to use to conduct transaction send and receive message even while the user is engaged in another activity, for instance, while travelling or working.
- 4) **Dissemination-** the information originators. E.g.-retailers, can use the wireless network of m-commerce to deliver various promotional offers to some or all WAP user that come into their cellular broadcast area.

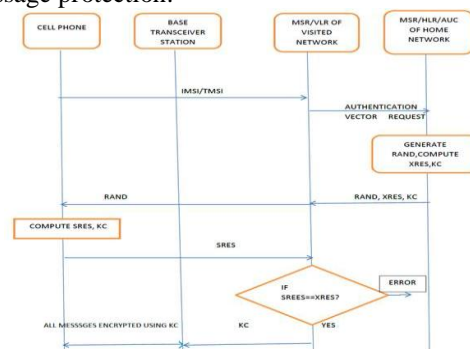
IV. SECURITY ISSUES IN M-COMMERCE

- 1) Security in GSM
- 2) Security in General Packet Radio Service (GPRS)
- 3) Security enhancements in UMTS

SECURITY IN GSM

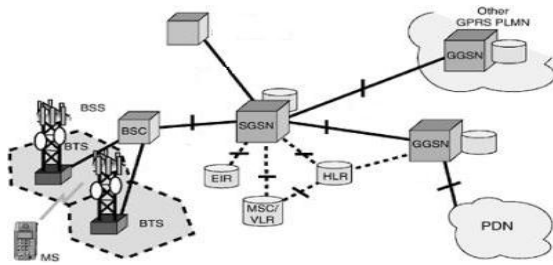
The two principal tasks involved for providing GSM Network security are:

- a) Entity authentication and Key agreement
- b) Message protection.



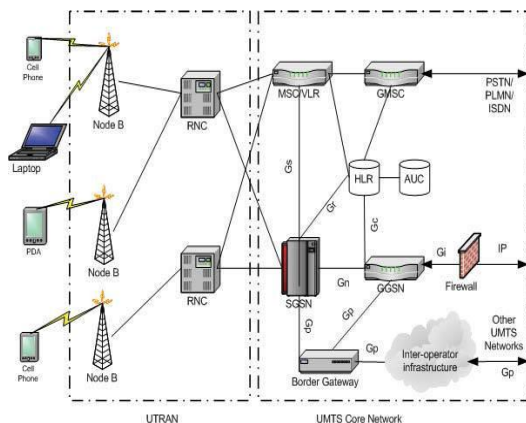
Security in General Packet Radio Service (GPRS)

GPRS technology lies between 2G and 3G, promises higher data throughput for sporadic traffic illustrated in 2.5G extends GSM by adding best effort packet switched communication for low latency data transmission.



Security enhancements in UMTS

The UMTS uses larger frequency band and its objective is to provide high data and voice rate. Since it has larger frequency band, a higher number of calls may be simultaneously serviced. The throughput for data communication has been increased significantly



V. RESEARCH TOOLS

1) JAVA:

Java is a setoff computer software and specifications developed by Sun Microsystems, which was later acquired by the Oracle Corporation, that Provides a system for developing application software and deploying it in a cross platform computing environment. Java is used in a wide variety of computing platforms from embedded devices and mobile phones to enterprise servers and supercomputers. While they are less common than standalone Java applications, Java applets run in secure, sandboxed environments to provide many features of native applications and can be embedded in HTML pages. Writing in the Java programming language is the primary way to produce code that will be deployed as byte code in a Java Virtual Machine (JVM); byte code compilers are also available for other languages, including Ada, JavaScript, Python, and Ruby. In addition, several languages have been designed to run natively on the JVM, including Scalar, Clojure and Groovy. Java syntax borrows heavily from C and C++, but object oriented features are modeled after Smalltalk and ObjectiveC. Java eschews certain low level constructs such as pointers and has a very simple memory model where every object is allocated on the heap and all variables of object types are references. Memory management is handled through integrated automatic garbage collection performed by the

JVM. On November 13, 2006, Sun Microsystems made the bulk of its implementation of Java available under the GNU General Public License

2) SQL:

Structured Query Language is a special purpose programming language designed for managing data held in a relational database management system (RDBMS), or for stream processing in a relational data stream management system (RDSMS). Originally based upon relational algebra and tuple relational calculus, SQL consists of a data definition language, data manipulation language, and a data control language. The scope of SQL includes data insert, query, update and delete, schema creation and modification, and data access control. Although SQL is often described as, and to a great extent is, a declarative language (4GL), it also includes procedural elements.

3) client/ server authentication:

The client-server model of computing is a distributed application structure that partitions tasks or workloads between the providers of a resource or service, called server, and service requesters, called client. Often clients and servers communicate over a computer network on separate hardware, but both client and server may reside in the same system. A server host runs one or more server programs which share their resources with clients. A client does not share any of its resources, but requests a server's content or service function. Clients therefore initiate communication sessions with servers which await incoming requests.

4) Encryption and decryption:

Encryption is the process of encoding messages or information in such a way that only authorized parties can read it. Encryption does not of itself prevent interception, but denies the message content to the interceptor. In an encryption scheme, the intended communication information or message, referred to as plaintext, is encrypted using an encryption algorithm, generating cipher text that can only be read if decrypted. Decryption is the process of transforming data that has been rendered unreadable through encryption back to its unencrypted form. In decryption, the system extracts and converts the garbled data and transforms it to texts and images that are easily understandable not only by the reader but also by the system. Decryption may be accomplished manually or automatically. It may also be performed with a set of keys or passwords

5) FTP:

The File Transfer Protocol (FTP) is a standard network protocol used to transfer computer files between a client and server on a computer network

6) RESEARCH IMPLEMENTATION:

Here in this we send the file from one computer to other, file transfer with encrypted and decrypted form. All the computer connected through one server and we can share

file and even access file from other computer through PC folder. In this research when we login then the main issue is the key. if we press wrong key three times then admin blocked that user. so always remember the key given at the login time. In this add security during file transfer after uploading the file first encrypt and after that decrypt the file for showing the receive data. And through Pc folder we can access files from different connected computers.

CONCLUSION

In this paper we discuss on security issue in m-commerce here we discuss the security issues in GSM, GPRS, UMTS. And using encryption and decryption algorithm which prevent threats at client and server site. Here security issues in different computer in one server in future we can improve this file transfer security with different servers.

REFERENCES

- [1]. Ashok K Talukder and Roopa R Yavagal, "Mobile Computing", TaTa McGraw Hill Education, January 2005
- [2]. Barnes, S.J. (2002) 'the mobile commerce value chain: analysis and future developments', International Journal of Information Management, Vol. 22, No 2 (April), pp. 91-108
- [3]. Gothlin, Nicklas et al., (2004), "Bluetooth and WAP Push Based Location-Aware Mobile Advertising System", Article type: Journal, pp.49-58
- [4]. Bauer, Hans H., Tina R., Barnes S.J, and Marcus M.(2005), "Driving Consumer Acceptance of Mobile Marketing: A Theoretical Framework and Empirical Study," Journal of Electronic Commerce Research, Vol 6, pp. 181-92.
- [5]. Hua Ye, "Design and Implementation of M-Commerce system applied to 3G Network platforms based on J2ME", IEEE International conference on Electrical and Control Engineering, 2010
- [6]. Hakima Chaouchi and Maryline Laurent maknavicius, "Wireless and Mobile Network Security", Second Edition, Wiley Publishers
- [7]. M banking architecture "Security issues and challenges in mobile computing and m-commerce" International Journal of Computer Science & Engineering Survey (IJCSSES) Vol.6, No.2, April 2015
- [8]. Agarwal, R., Sambamurthy, V. & Stair, R.M. (2000) "Research report: The Evolving relationship between general and specific computer self-efficacy—an empirical assessment", Information Systems Research, Vol. 11, No. 4, pp. 418-430
- [9]. Aldin, N., Brehmer, P.O., Johansson, A. (2004), "Business development with electronic commerce: refinement and repositioning", Business Process Management Journal, Vol. 10, No.1, pp.44-62.
- [10]. Aldin, N., Brehmer, P.O., Johansson, A. (2004), "Business development with electronic commerce: refinement and repositioning", Business Process Management Journal, Vol. 10, No.1, pp.44-62.
- [11]. Bauer, Hans H., Tina R., Barnes S.J, and Marcus M.(2005), "Driving Consumer Acceptance of Mobile Marketing: A Theoretical Framework and Empirical Study," Journal of Electronic Commerce Research, Vol 6, pp. 181-92.
- [12]. Constantinides, E., (2004) "Influencing the online consumer's behavior: The Web experience". Journal: Internet Research: Electronic Networking Applications and policy, Vol.14, No 2, pp.111-126
- [13]. Hohenberg, H. E. / Rufers, S. (2004), "Das Mobiltelefon als Geldbörse der Zukunft – Chancen und Potentiale des Mobile Payment (M-Payment)", Vol. 43, No. 168, pp. 33-40.
- [14]. Hsu, M.H., Chiu, C.M., (2004). "Internet self-efficacy and electronic Service acceptance. Decision Support Systems" Vol 38, No 3, pp. 369-381
- [15]. Nambiar S., Lu C T., (2005), "M-Payment Solutions and M-commerce Fraud Management.
- [16]. Varshney, et al (2002), "Supporting mobile commerce applications using dependable wireless networks" Vol. 7, No 3, pp. 225 – 234
- [17]. M banking architecture "Security issues and challenges in mobile computing and m-commerce" International Journal of Computer Science & Engineering Survey (IJCSSES) Vol.6, No.2, April 2015
- [18]. M payment cycle "Security issues and challenges in mobile computing and m-commerce" International Journal of Computer Science & Engineering Survey (IJCSSES) Vol.6, No.2, April 2015
- [19]. Hua Ye, "Design and Implementation of M-Commerce system applied to 3G Network platforms based on J2ME", IEEE International conference on Electrical and Control Engineering, 2010
- [20]. Hakima Chaouchi and Maryline Laurent maknavicius, "Wireless and Mobile Network Security", Second Edition, Wiley Publishers
- [21]. Anurag Kumar Jain and Devendra Shanbhaug, "Addressing Security and Privacy Risks Mobile applications", IEEE Computer society, 2012
- [22]. "JAVASOFT SHIPS JAVA 1.0". Web.archive.org. Archived from the original on 20080205. Retrieved 20160209
- [23]. Net Beans IDE is available for free download at www.netbeans.org